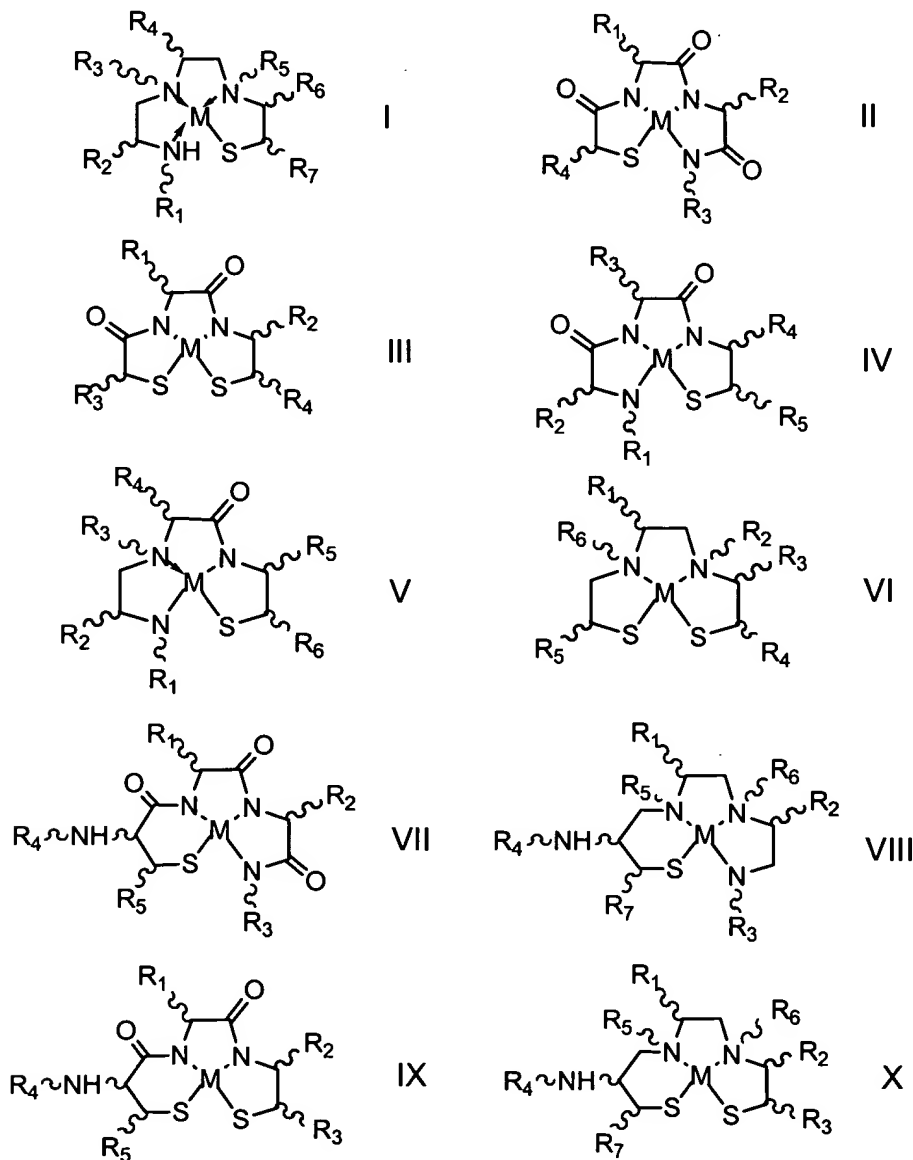


This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 – 23 (Canceled)

Claim 24 (Currently Amended): A combinatorial library of metallopeptides bound to solid phase, wherein each constituent metallopeptide library member is selected from the group consisting of:



where:

R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , and R_7 are each independently hydrogen or a functional group; and

M is a tetradentate metal ion, metal-oxo group, metal-nitride group or N-nitrido substituted metal-nitride; ~~and~~,

wherein each constituent metallopeptide library member varies by at least one of R₁, R₂, R₃, R₄, R₅, R₆, or R₇; and

wherein each constituent metallopeptide library member is made by a synthetic process wherein the sulfur atom (S) is protected by an orthogonal sulfur atom-protecting group compatible with peptide solid phase synthesis and removable without cleaving the peptide from solid phase.

Claim 25 (Previously Presented): The combinatorial library of claim 24 wherein the tetradentate metal ion is rhenium.

Claim 26 (Previously Presented): The combinatorial library of claim 24 wherein M is rhenium-oxo.

Claim 27 (Previously Presented): The combinatorial library of claim 24 wherein M is rhenium-nitride.

Claim 28 (Previously Presented): The combinatorial library of claim 24 wherein M is N-nitrido-substituted rhenium-nitride.

Claim 29 (Previously Presented): The combinatorial library of claim 28 wherein N-nitrido-substituted rhenium-nitride is of the formula Re=N-R₈, wherein R₈ is a functional group.

Claim 30 (Previously Presented): The combinatorial library of claim 24 wherein the functional group is an amino acid side chain.

Claim 31 (Previously Presented): The combinatorial library of claim 24 wherein at least one of R₁, R₂, R₃, R₄, R₅, R₆, or R₇ is the same for each constituent metallopeptide library member.

Claim 32 (Previously Presented): The combinatorial library of claim 24 wherein for each

constituent metallopeptide library member at least one of R₁, R₂, R₃, R₄, R₅, R₆, or R₇ is a side chain of an L- or D-isomer of 2-Nal, Phe, Trp, Tyr or Ala.

Claim 33 (Previously Presented): The combinatorial library of claim 32 wherein the library is targeted to one or more melanocortin receptors.

Claim 34 (Previously Presented): The combinatorial library of claim 24 wherein the combinatorial library is targeted to a known target, and at least one of R₁, R₂, R₃, R₄, R₅, R₆, or R₇ is a side chain of a peptide that binds to the known target.

Claim 35 (Previously Presented): The combinatorial library of claim 34 wherein the known target is a biological receptor.

Claim 36 (Previously Presented): The combinatorial library of claim 24 made by a process of split pool synthesis.

Claim 37 (Canceled)

Claim 38 (Currently Amended): The combinatorial library of ~~claim 37~~ claim 24 wherein the orthogonal sulfur atom-protecting group is S-thio-butyl, acetamidomethyl, 4-methoxytrityl, S-sulfonate or 3-nitro-2-pyridinesulfonyl.

Claim 39 (Currently Amended): The combinatorial library of ~~claim 37~~ claim 24 wherein the synthetic process further comprises removing the orthogonal sulfur atom-protecting group during complexation of M to the metallopeptide library members.

Claim 40 (Previously Presented): The combinatorial library of claim 24 wherein any reactive sulfur atom in any one or more of R₁, R₂, R₃, R₄, R₅, R₆, or R₇ is protected by a non-orthogonal sulfur atom-protecting group.